

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 98-100
NPDES PERMIT NO. CA0029904

WASTE DISCHARGE REQUIREMENTS FOR:

CROCKETT COGENERATION, a California Limited Partnership
AND
PACIFIC CROCKETT ENERGY, INC., its General Partner
550 LORING AVENUE
CROCKETT, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter Board, finds that:

1. Crockett Cogeneration, a California Limited Partnership, and Pacific Crockett Energy, Inc., its General Partner (hereinafter the Dischargers) submitted a Report of Waste Discharge dated January 20, 1998 and subsequent amendment dated April 6, 1998 for the reissuance of National Pollutant Discharge Elimination System (NPDES) Permit No. CA0029904.
2. The Dischargers operate a steam electric power generating plant with a maximum steam throughput of 450,000 lbs/hr and a rated electrical power output of 240 MW. All cooling systems are closed looped, and not once-through cooling. Industrial effluent generated from the plant is currently discharged to a deep water outfall pipe owned and operated by adjacent California and Hawaiian Sugar Company (C&H). The combined effluent from the Dischargers and C&H are discharged to Carquinez Straits, a portion of an enclosed bay and a water of United States and the State.
3. The description of waste discharged from the site is based on information contained in the Report of Waste Discharge, recent self-monitoring reports, and other relevant information provided by the Dischargers. Attachment B is a water process flow diagram.
 - a. Waste 001A consists of an average of 14,400 gallons per day (gpd) of blowdown from a gas turbine evaporative cooler. Waste 001B averages approximately 151,200 gpd of demineralizer regenerant, and Waste 001C consists of an average of 28,800 gpd of boiler blowdown water at a temperature of approximately 150°F. These streams are mixed in a 150,000 gallon neutralization tank prior to discharge as Waste 001 to C&H's deep water outfall pipe at a location of latitude 38°03'22" and longitude 122°13'05". Water supply from East Bay Municipal Utility District is added to the boiler blowdown sump to lower the temperature of Waste 001C. As necessary, sulfuric acid and caustic soda are added to the neutralization tank to control the pH of the mixed streams.
 - b. Waste 002 consists of uncontaminated stormwater runoffs from a total of 2-acre non-curbed areas throughout the site, 90,000 gallons (annually) of air-cooled condenser wash down water, 15,000 gallons (twice a month) walkways/stairways wash down water, and incidental limited quantity of water condensed from the exterior surface of three roof-type air conditioners. The wash down waters and the condensed water, which are not expected to include any oil or grease, heavy metals or toxic materials, are collected at the catch basins throughout the site. Waste 002 is discharged to an outfall at a location of latitude 38°03'22" and longitude 122°12'50". A

manually operated valve is installed in manhole #3 to control the discharge of polluted stormwater.

4. The U.S. Environmental Protection Agency (USEPA) and the Board have classified this discharge as a minor discharge.
5. Presently drinking water from EBMUD is used to quench down the temperature of Waste 001; it is a waste of municipal water resource. Substantial modification of the plant is not probable due to physical constraints. To cut down the waste of drinking water used for temperature quenching, and to provide a long-term solution for complying the temperature limitation in this Order, the Dischargers are currently investigating the possibility of mixing Waste 001 with seawater obtained through the existing intake pipe of C&H plant. A proposal will be submitted to the Board for consideration.
6. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on June 21, 1995, and approved by the State Water Resources Control Board (State Board) and the Office of Administrative Law on July 20, and November 13, respectively, of 1995. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect those uses. This Order implements the plans, policies, and provisions of the Board's Basin Plan.
7. The State Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (hereinafter the Thermal Plan) on September 18, 1975. Since none of the three waste streams constituting Waste 001 is discharged for the purpose of transporting waste heat, Waste 001 is therefore classified as elevated temperature waste. This Order contains temperature limitations for Waste 001 in accordance with Thermal Plan requirements.
8. The beneficial uses of Carquinez Straits and contiguous waters are:
 - a. Industrial Service Supply
 - b. Navigation
 - c. Water Contact Recreation
 - d. Non-Contact Recreation
 - e. Ocean Commercial and Sport Fishing
 - f. Wildlife Habitat
 - g. Preservation of Rare and Endangered Species
 - h. Fish Migration and Spawning
 - i. Estuarine Habitat
9. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, 306, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
10. Effluent limitation guidelines requiring the application of the best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) have been promulgated by the USEPA on November 19, 1982 and amended on July 8, 1983 for the Steam Electric Power Generating Point Source Category (40 CFR 423). Effluent limitations of this Order are based on these guidelines, the Basin Plan, other State Plans and policies, current plant performance and best professional judgment. The limitations are considered to be those attainable

by BAT in the judgment of the Board, the national toxics rule (40 CFR 131.36), and the narrative water quality objectives contained in the Basin Plan.

11. The reissuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100 of Division 13) of the Public Resources Code (CEQA) pursuant to section 13389 of the California Water Code.
12. The Board notified the Dischargers and interested agencies and persons of its intent to reissue waste discharge requirements, and has provided them with an opportunity for a public hearing and to submit their written views and recommendations.
13. The Board, in a public hearing, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Dischargers, in order to meet the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid is prohibited.
2. Chemicals used in any metal components cleansing, flushing, washdown, algae control, or corrosion and deposition inhibition shall not contain copper, zinc, chromium or other heavy metal constituents.
3. The discharge of Waste 001 at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1 is prohibited.
4. Discharges of water, materials, or wastes other than those authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.
5. The discharge of all toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, is prohibited.

B. Effluent Limitations

1. Waste 001 shall not have a pH less than 6.0 nor greater than 9.0.
2. Representative samples of Waste 001 shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Daily Maximum</u>
Zinc	µg/l	330	840
Total Suspended Solids	mg/l	30	45
Oil and Grease	mg/l	10	20

3. Waste 001 shall meet the following acute toxicity limitations:

The survival of organisms in undiluted effluent shall be a 3-sample median value of not less than 90 percent survival, and a single sample survival of at least 70 percent. The 3-sample median is defined as follows:

3 sample median: If one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

4. The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.

C. Receiving Water Limitations

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:
 - a. floating, suspended or deposited macroscopic particulate matter or foam;
 - b. alteration of turbidity or apparent color beyond present natural background levels;
 - c. visible, floating, suspended or deposited oil or other products of petroleum origin;
 - d. bottom deposits or aquatic growths; and
 - e. toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge shall not cause the following limits to be exceeded in water of the State at any place within one foot of the water surface:
 - a. the pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units; and
 - b. the concentration of dissolved oxygen shall not be less than 7.0 mg/l any time.
3. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperature of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of Carquinez Straits at any point.
4. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
5. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify the Order in accordance with such standards.

D. Provisions

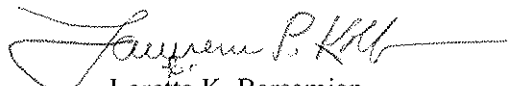
1. The Dischargers shall comply with all provisions of this permit upon its adoption by the Board except as noted below.
2. This permit may be re-opened to include effluent limits for copper or other toxic pollutants if monitoring results of these pollutants indicate that there may be reasonable potential of exceeding the applicable site-specific water quality objectives and/or a threat of impacts to the water quality or beneficial uses of the receiving water and San Francisco Bay.
3. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.
4. The Dischargers shall comply with the attached Self-Monitoring Program as adopted by the Board and as may be amended by the Board pursuant to USEPA regulations 40 CFR 122.62, 122.63, and 124.5.
5. The Dischargers shall comply with the attached Standard Provisions and Reporting Requirements of August 1993.
6. Compliance with Acute Toxicity Limitation
Compliance with effluent limitation B.2. of this Order shall be evaluated by measuring the survival rate of both fish species of stickleback and fathead minnow. Each toxicity test consists of exposing ten fish of each species to undiluted effluent for 96 hours, and each fish represents a single sample. The two fish species shall be tested concurrently. Toxicity tests shall be performed according to protocols approved by the USEPA or equivalent alternatives acceptable to the Executive Officer.
7. The Dischargers shall update its Best Management Practices (BMP) program, and submit to the Board not later than December 1, 1998. The BMP program shall be consistent with the requirements of USEPA regulation 40 CFR 125, Subpart K and the general guidance contained in the "NPDES Best Management Guidance Document", USEPA Report No. 600/9-79-045, December 1979 (revised June 1981). A BMP program acceptable to the Executive Officer shall be implemented within 30 days of approval.
8. The Dischargers shall update its Storm Water Pollution Prevention Plan (SWPPP) not later than December 1, 1998, and submit to the Executive Officer for approval. The SWPPP shall cover the entire facility owned and operated by the Dischargers. It shall describe the management and handling of storm water runoffs from the facility, and appropriate measures taken to prevent contamination of storm water or discharge of pollutants with the stormwater. As part of the SWPPP, the Dischargers shall 1) identify on a map of appropriate scale the areas which contribute runoff, 2) describe the activities on those areas and the potential for contamination of the runoff, 3) address the feasibility for containment and/or treatment of the storm water, and 4) propose a monitoring plan for the discharge from these areas. The Dischargers shall implement the SWPPP within 30 days upon approval of the plan by the Executive Officer.
9. The Dischargers shall update, and submit to the Executive Officer for approval, a contingency plan as required by Board Resolution No. 74-10, not later than December 1, 1998. Upon approval, the contingency plan should be implemented within 30 days.

10. Wash Down Water Discharge

The Dischargers shall vacuum/sweep clean these structures prior to discharging any walkways/stairways wash down water. All catch basins should be cleaned regularly; residues in all the catch basins shall be removed. Solids in the wash down water should be allowed to settle at the catch basin. Monitoring pursuant to the approved SWPPP shall be implemented.

11. The Dischargers shall use the lowest possible detection limits commercially available for analyzing pollutants in the effluent discharges from the site.
12. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to USEPA regulations (40 CFR 122.41k).
13. In the event of any change in control or ownership of land or waste, the Dischargers shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Board. Proper requirements in the Standard Provisions and Reporting Requirements should be followed.
14. Pursuant to the USEPA regulation 40 CFR 122.42(a) the Dischargers must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).
15. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge.
16. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from the date of hearing provided the USEPA Regional Administrator has no objections.
17. This Order expires on September 16, 2003, and the Dischargers must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for the reissuance of waste discharge requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 16, 1998.


Loretta K. Barsamian
Executive Officer

Attachments:

- A. Location Map
- B. Water Process Flow Diagram
- C. Self-Monitoring Program, Parts A and B
- D. Standard Provisions, and Reporting Requirements dated August 1993
- E. General Industrial Stormwater Permit - Section A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CROCKETT COGENERATION,
A California Limited Partnership

AND

PACIFIC CROCKETT ENERGY, INC.,
Its General Partner

CROCKETT, CONTRA COSTA COUNTY

NPDES NO. CA 0029904

ORDER NO. 98-100

Consists Of

Part A (Dated August 1993)

and

Part B

PART B

I. Description of Sampling Stations

A. Effluent

<u>Station</u>	<u>Description</u>
E-001	At any point in the Waste 001 outfall between Junction with C&H outfall and the point at which all waste tributaries to that outfall are present.
E-002	At any point in the Waste 002 outfall between the discharge point and the point at which all uncontaminated stormwater tributaries to that outfall are present.

B. Receiving Water

<u>Station</u>	<u>Description</u>
C-10	At a point in Carquinez Straits, located in the boil caused by C&H Waste 001.
C-RE	At a point in Carquinez Straits, located at the edge of the C&H wharf on its easterly end.
C-RW	At a point in Carquinez Straits, located at the edge of the C&H wharf on its westerly end.

II. Schedule of Sampling, Analysis & Observations

- A. The schedule of sampling and analysis shall be that given in attached Table 1.
- B. Sample collection, storage, and analysis shall be performed according to 40 CFR 136 and amended versions thereto, or other methods approved and specified by the Board.


III. Reporting

- A. Self-Monitoring Reports shall be prepared quarterly and shall be received by the Regional Board by the fifteenth day of the month following the quarter (e.g. January-March report is due April 15th), unless no discharge has occurred in the preceding quarter.

- B. An annual report which contain information as prescribed in Provision F.5 of Part A of this Self-Monitoring Program shall be submitted to the Regional Board by January 30 of each year.
- C. The Dischargers shall retain and submit, when required, the following information concerning the monitoring program for organic and metallic pollutants.
 - a. Description of sample stations, times and procedures.
 - b. Description of sample containers, storage, and holding time prior to analysis.
 - c. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for internal controls and surrogates.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the following Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board.
- 2. Is effective on September 16, 1998.
- 3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Dischargers and revisions may be ordered by the Executive Officer or Regional Board.


Loretta K. Barsamian
Executive Officer

Attachments:
Table 1

TABLE 1

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituents	Unit	Type of Sample	Frequency of Analysis
E-001	Flow	gpd	Continuous	Continuous
	Oil & Grease	mg/l	Grab ⁽¹⁾	Monthly
	TSS	mg/l	Grab	Monthly
	pH	pH Unit	Continuous	Continuous
	Temperature	degree F	Continuous	Continuous
	Chromium(VI)	µg/l	Grab	Quarterly
	Copper	µg/l	Grab	Quarterly
	Cyanide ⁽²⁾	µg/l	Grab	Quarterly
	Lead	µg/l	Grab	Quarterly
	Mercury	µg/l	Grab	Quarterly
	Nickel	µg/l	Grab	Quarterly
	Silver	µg/l	Grab	Quarterly
	Zinc	µg/l	Grab	Monthly
	Acute Bioassay 96-Hour Toxicity	% Survival	Composite	Quarterly
E-002	pH	pH Unit	Grab	Each Day of Discharge
	Oil & Grease	mg/l	Grab	Each Day of Discharge
	All Applicable Standard Observations			Each Occurrence of Discharge

TABLE 1 - Continued

Station	Constituents	Unit	Type of Sample	Frequency of Analysis
C-10	All Applicable Standard Observations			Quarterly
C-RE, C-RW	pH	pH Unit	Grab	Quarterly
	Temperature ⁽³⁾	degree F	Grab	Daily ⁽⁴⁾
	All Applicable Standard Observations			Quarterly

All sampling and testing shall follow appropriate USEPA approved methods, or equivalent alternatives that are approved by the Executive Officer.

Legend:

Frequency of Analysis

Daily = Once each day
 Monthly = Once each month
 Quarterly = Once each quarter

Footnote:

- (1) Because of the batch discharge characteristic, the Dischargers should collect a grab sample in a glass container during the sampling day. Each glass container used for sample collection or mixing shall be thoroughly cleaned with solvent rinsing as soon as possible after use, and the solvent rinsing shall be added to the composite waste water sample for extraction and analysis.
- (2) The Dischargers may, at their options, analyze for cyanide as Weak Acid dissociable Cyanide using protocols specified in Standard Method No. 4500-CN-I, latest edition.
- (3) Daily temperature readings measured at both locations and for the effluent E-001 shall be reported in the same table.
- (4) Simultaneous temperature readings shall be measured at one foot below the receiving water surface from these two locations. If simultaneous temperature measurements are not feasible, the time duration between the two temperature measurements should be kept minimum.